

## CLAIMS

What is claimed is:

1. A method of operating a tool for installing a deformable fastener into a panel, comprising the steps of:
  - inserting a deformable fastener through a hole and into a panel;
  - applying a compressive force to the deformable fastener to deform and secure the fastener to the panel;
  - measuring the amount of applied force and the distance of fastener deformation as said force is being applied;
  - plotting the amount of force versus the deformation distance to generate a force-deformation curve as the force is being applied;
  - measuring periodically the slope of the force-deformation curve;
  - determining when the slope of the force-deformation curve changes from positive to negative;
  - periodically comparing the deformation distance to a deformation setpoint;
  - obtaining a force value by recording the maximum measured force when the slope changes from positive to negative prior to said deformation setpoint;
  - multiplying said force value by a factor to obtain a stop force; and
  - halting the applied force when the stop force is reached.
2. A method of operating a tool for installing a deformable fastener into a panel, comprising the steps of:
  - inserting a deformable fastener through a hole and into a panel;

1                   applying a compressive force to the deformable fastener to deform and secure the  
2 fastener to the panel;  
3                   measuring the amount of applied force and the distance of fastener deformation as  
4 said force is being applied;  
5                   plotting the amount of force versus the deformation distance to generate a force-  
6 deformation curve as the force is being applied;  
7                   measuring periodically the slope of the force-deformation curve;  
8                   determining when the slope of the force-deformation curve changes from positive  
9 to negative;  
10                  periodically comparing the deformation distance to a deformation setpoint;  
11                  obtaining a force value by periodically calculating a force axis intercept of a  
12 straight line that is tangent to a recent point on the force-deformation curve and recording the  
13 force when the force intercept drops below a predetermined value and the deformation setpoint  
14 has been exceeded;  
15                  multiplying said force value by a factor to obtain a stop force; and  
16                  halting the applied force when the stop force is reached.

17           3.       The method of claims 1 or 2 wherein said fastener is a blind threaded insert.

18           4.       The method of claims 1 or 2 wherein the step of applying a compressive force  
19 comprising threading a mandrel into a bore of said insert and applying a pulling force such that a  
20 head of said insert is forced against a head support means of a tool which carries the mandrel.